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20A and 20B

Figs. ~~20B and 20b~~ depict the apparatus for forming optical aperture in embodiment 9. As shown in the drawing, the work 3000 comprises a transparent layer 5 formed on a substrate 4, a tip of conical or pyramidal shape 1 and a ridge-shaped stopper 2 formed on the transparent layer 5, and an opaque film 3 formed on the tip 1, the stopper 2 and the transparent layer 5. The explanation on the shape and the arrangement of the tip 1 and the stopper 2 is omitted, because it is the same as in embodiment 1.

The difference of this embodiment from the embodiment 1 is that the presser 7 is made of a material softer than the plate 6. The presser 7 is a silicone rubber several mm in thickness. A presser made of a different material may function as the presser 7 as far as the material is softer than the plate 6.

Fig. 20B depicts the state in which the presser 7 is not pressing the plate 6. Fig. 20b depicts the state in which the presser 7 is pressing the plate 6 with the force F . When the presser 7 presses the plate 6 with the force F , the opaque film 3 is plastically deformed, and an aperture is formed at the apex of the tip 1. When the plate 6 has a rough surface facing the presser 7, the presser 7 deforms elastically according to the surface topology of the plate 6, and a constant pressure is applied onto the plate 6. If the presser 7 had higher rigidity than the plate 6, there would be a variation of pressure on the plate 6, the plate 6 could not press the tip 1 vertically, giving rise to a variation of the aperture size and shape. By preparing